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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Eliot M. Case et al.

Group Art Unit: 2655

Examiner: D. Brant

Serial No.: 09/818,207

Filed: March 27, 2001

For: SYSTEM AND METHOD FOR CONVERTING TEXT-TO-VOICE

Attorney Docket No.: 1812 / USW 0618 PUS

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal brief from the final rejection of claims 1-7 and 9-10 of the Office Action dated June 1, 2004. This application was filed on March 27, 2001.

I. REAL PARTY IN INTEREST

The real party in interest is Qwest Communications International, Inc., a corporation organized and existing under the laws of the state of Delaware, and having a place of business at 1801 California Street, 38th Floor, Denver, Colorado 80202, as set forth in the assignment recorded in the U.S. Patent and Trademark Office on August 13, 2001 at Reel 012080, Frame 0152.

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this paper, including all enclosures referred to herein, is being deposited with the United States Postal Service as first-class mail, postage pre-paid, in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, U.S. Patent & Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 on:

September 22, 2004	Jeremy J. Curcuri	Jeremy J. Curcuri
Date of Deposit	Name of Person Signing	Signature

II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-7 and 9-10 are pending in this application. Claims 1-7 and 9-10 have been rejected and are the subject of this appeal. Claim 8 has been cancelled.

IV. STATUS OF AMENDMENTS

No amendment after final rejection has been filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 recites a method for converting text to concatenated voice by utilizing a digital voice library 12 (Figure 1) and a set of playback rules. The digital voice library 12 includes a plurality of speech items and a corresponding plurality of voice recordings. Each speech item corresponds to at least one available voice recording. The invention is exemplified in Figures 1 and 2, where Figure 1 illustrates a simplified block diagram of text-to-voice conversion and Figure 2 illustrates an architectural flow diagram.

The method comprises receiving text data, and expanding the text data to form a sequence of text and pseudo words. Figure 2 depicts the reception of input text at input/output port interface 82, text breakdown at block 86, and an abbreviations database at 88.

The method further comprises converting the sequence of speech items into a sequence of voice recordings in accordance with a set of playback rules. Figure 2 depicts look-up control module 90, which cooperates with playback rules 98. Figure 2 also depicts the cooperation of look-up control module 90 with phrase database 92, word database 94, and new word generator module 96.

As recited by claim 1, the method further comprises generating voice data based on the sequence of voice recordings by concatenating adjacent recordings in the sequence of voice recordings. Figure 2 depicts voice data construction at 108.

According to the invention and as recited by claim 1, the plurality of speech items includes a plurality of phrases, and converting the sequence of text and pseudo words further includes parsing the sequence of text and pseudo words to determine any phrases. (*Specification*, page 2, lines 1-11; page 2, line 29 through page 3, line 1; and page 3, lines 1-6.)

A preferred embodiment of the invention is exemplified in Figures 1 and 2, and described in the specification at page 8, line 14 through page 10, line 11. In particular, the operation of phrase database 92 is described, for example, at page 9, lines 3-8.

It is appreciated that the invention, as defined by claim 1, takes a parsing approach to handling the sequence of text and pseudo words, and in particular, claim 1 recites parsing the sequence of text and pseudo words to determine any phrases. At a more detailed level, the invention also comprehends parsing the sequence of text and pseudo words to determine any words, and parsing the sequence of text and pseudo words to determine any syllables.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1 and 9-10 are unpatentable over Hata et al. (U.S. Patent No. 5,878,393) in view of Syrdal (U.S. Patent No. 6,601,030).

2. Whether claims 2-7 are unpatentable over Hata et al. in view of Syrdal, and further in view of Holm et al. (U.S. Patent No. 5,850,620).

VII. ARGUMENT

1. Claims 1 and 9-10 (Hata in view of Syrdal)

a. Claim 1

Claim 1 recites a method for converting text to concatenated voice by utilizing a digital voice library and a set of playback rules. The digital voice library includes a plurality of speech items and a corresponding plurality of voice recordings. Each speech item corresponds to at least one available voice recording. The method comprises receiving text data, expanding the text data to form a sequence of text and pseudo words, and converting the sequence of text and pseudo words into a sequence of speech items in accordance with a digital voice library. The method further comprises converting the sequence of speech items into a sequence of voice recordings in accordance with a set of playback rules. The method further comprises generating voice data based on the sequence of voice recordings by concatenating adjacent recordings in the sequence of voice recordings.

According to the invention, the plurality of speech items includes a plurality of phrases, and converting the sequences of text and pseudo words further includes parsing the sequence of text and pseudo words to determine any phrases.

Hata describes a concatenative reading system. Hata describes the processing of text by a word list generator to develop a word list corresponding to those words that are to be spoken by the system. As best shown in Figure 2b of Hata, the processing starts at the head of the word list and continues until the end is reached, as indicated by blocks 92, 110. Thereafter, the sample list is played by concatenating samples and outputting them through the digital/analog converter. It is important to note that Hata utilizes a word-by-word processing approach, and is far different than the invention which involves a parsing approach. More particularly, claim 1 recites parsing the sequence of text and pseudo words to determine any phrases, in combination with other limitations. The Examiner acknowledges that Hata alone fails to suggest the invention.

The Examiner relies on Syrdal in combination with Hata in making the rejection. With regard to Syrdal, the Examiner notes that Syrdal provides sufficient suggestion for using phrases by simply listing phrases as a possible option for result of concatenation.

Syrdal fails to suggest the modification of Hata to achieve the claimed invention. That is, Hata, in combination with Syrdal, fails to suggest the claimed invention. Syrdal describes a method and system for recorded word concatenation. Syrdal does describe word concatenation to create a natural sounding sequence of words, numbers, phrases, sounds, etc. However, Syrdal only suggests concatenation of various items including phrases, and fails to suggest a parsing approach to conversion, as recited by claim 1.

Claim 1 specifically recites parsing the sequence of text and pseudo words to determine any phrases, in combination with other limitations. Syrdal only suggests that recorded word concatenation can create a natural sounding sequence of items, including phrases. There is no suggestion of the specifically recited feature in claim 1 of the conversion of sequences of text and pseudo words further including parsing the sequence of text and pseudo words to determine any phrases, let alone any suggestion to combine such a feature with Hata to achieve the claimed invention.

Put another way, Hata fails to suggest the invention with some of its shortcomings being acknowledged by the Examiner. Syrdal describes recorded word concatenation, but fails to address the shortcomings of Hata, let alone suggest the combination of Hata and Syrdal to achieve the claimed invention. For these reasons, claim 1 is believed to be patentable.

b. *Claim 9*

Claim 9 recites parsing the sequence of text and pseudo words to determine any words. As explained above, such a parsing approach is not suggested by Hata, Syrdal, or any combination of Hata and Syrdal. The Examiner states that Syrdal discloses parsing text and identifying words in the Abstract at line 3. The Examiner is misinterpreting Syrdal. Syrdal only describes performing recorded word concatenation to create a natural sounding sequence of words, numbers, phrases, sounds, etc. Syrdal makes no mention of a parsing approach, let alone the approach specifically set forth by claim 9.

c. *Claim 10*

Claim 10 recites parsing the sequence of text and pseudo words to determine any syllables. Again, Hata and Syrdal do not suggest such a parsing approach as recited by claim 10. With regard to claim 10, Syrdal only discloses recorded word concatenation to create a natural sounding sequence, and fails to suggest the specifically claimed feature of claim 10.

2. *Claims 2-7 (Hata in View of Syrdal, Further in View of Holm)*

Claims 2-7 are dependent claims and are also believed to be patentable.

The fee of $330.00 as applicable under the provisions of 37 C.F.R. § 1.17(c) is enclosed. Please charge any additional fee or credit any overpayment in connection with this filing to our Deposit Account No. 02-3978.

Respectfully submitted,

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Enclosure - Appendix

IX. APPENDIX - CLAIMS ON APPEAL

1. A method for converting text to concatenated voice by utilizing a digital voice library and a set of playback rules, the digital voice library including a plurality of speech items and a corresponding plurality of voice recordings wherein each speech item corresponds to at least one available voice recording, the method comprising:

receiving text data;

expanding the text data to form a sequence of text and pseudo words;

converting the sequence of text and pseudo words into a sequence of speech items in accordance with the digital voice library;

converting the sequence of speech items into a sequence of voice recordings in accordance with the set of playback rules;

generating voice data based on the sequence of voice recordings by concatenating adjacent recordings in the sequence of voice recordings;

wherein the plurality of speech items includes a plurality of phrases, and wherein converting the sequences of text and pseudo words further includes parsing the sequence of text and pseudo words to determine any phrases.

2. The method of claim 1 wherein expanding the text data further comprises:

searching the text data for an abbreviation; and

expanding any abbreviation contained in the text data into at least one pseudo word.

3. The method of claim 1 wherein expanding the text data further comprises:

searching the text data for a numerical suffix; and

expanding any numerical suffix contained in the text data into at least one pseudo word.

4. The method of claim 1 wherein expanding the text data further comprises:

searching the text data for a telephone number; and

expanding any telephone number contained in the text data into at least one pseudo word.

5. The method of claim 1 wherein expanding the text data further comprises:

searching the text data for a number that includes a comma; and

expanding any number that includes a comma contained in the text data into at least one pseudo word.

6. The method of claim 1 wherein expanding the text data further comprises:

searching the text data for an Internet mail address; and

expanding any Internet mail address contained in the text data into at least one pseudo word.

7. The method of claim 1 wherein expanding the text data further comprises:

searching the text data for an Internet Universal Resource Locator; and

expanding any Internet Universal Resource Locator in the text data into at least one pseudo word.

9. The method of claim 1 wherein the plurality of speech items includes a plurality of words, and wherein converting the sequence of text and pseudo words further comprises:

parsing the sequence of text and pseudo words to determine any words.

10. The method of claim 9 wherein the plurality of speech items includes a plurality of syllables, and wherein converting the sequence of text and pseudo words further comprising:

parsing the sequence of text and pseudo words to determine any syllables.